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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MOORE & VAN ALLEN PLLC P.O. BOX 13706 Research Triangle Park, NC 27709			NGUYEN, DUC MINH	
			ART UNIT	PAPER NUMBER
			2643	
DATE MAILED: 10/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,581	SACHS, ANDREW	
	Examiner	Art Unit	
	Duc Nguyen	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-9,13-23,25-50,52-61,70-72 and 78-80 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-9,13-23,25-50,52-61,70-72 and 78-80 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____ . |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4, 6, 13, 37-38, 40, 42, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al (US 2004/0086086) in view of Lowell et al (6,362,630).

Consider claims 1, 37, 44. Butler teaches a method to qualify a line pair, comprising sending an initiate test signal to a remote termination unit (field test device 4) from another termination unit (CO switch 2) and a test set (loop responder 1), wherein a test set performing line qualifying testing is coupled to the other termination unit (see fig(s) 1); disconnecting the other termination unit from the line pair after sending the initiate test signal and before performing a series of line pair qualifying tests (i.e., cause the No Test Trunk to lift battery from the subscriber loop; page(s) 3, ¶ 0019; page(s) 5, ¶ 0048 through page(s) 6, ¶ 0049); connecting the test set directly to the line pairs and performing the series of line pair qualifying tests (establishing a metallic path between the loop responder and the field test device using the metallic path through the NTT; page(s) 3, ¶ 0019; page(s) 5, ¶ 0048 through page(s) 6, ¶ 0049). Butler does not teach that the remote termination unit is adapted to provide selected types of terminations connectable to the line pair to perform the qualifying tests.

Lowell teaches a system and method comprising automatically selecting types of terminations connectable to the line pair to perform the qualifying tests (column(s) 1, line(s) 14-

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17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Lowell into the teachings of Butler for the purposes mentioned above.

Consider claims 2, 38. Lowell further teaches open circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing open circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claims 4, 40. Lowell further teaches short circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing short circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claims 6, 42. Lowell further teaches transmitting a selected signal on the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing signal loop tests while the selected signal is transmitted on the line pair by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6;

column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claim 13. Lowell teaches the use of well-known test equipment (column(s) 5, line(s) 5-20). Therefore, it would have been obvious to use the well-known, off-the-shelves VT100 terminal for testing the copper line pair.

3. Claims 3, 5, 7-8, 39, 41, 43, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al (US 2004/0086086) in view of Lowell et al (6,362,630) as applied to claims 1-2 above, and further in view of and further in view of Liu et al (6,266,395), Bauer et al (6,026,145) or Smith et al (US 2002/0067802A1).

Consider claims 3, 7, 39, 41. Butler in view of Lowell does not teach performing time domain reflectometry tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test.

Liu teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 7, line(s) 6 to column(s) 11, line(s) 6) for the purposes of providing an apparatus for the qualification of subscriber loops which reduces the skill level required by operators performing the qualification (column(s) 2, line(s) 34-37).

Bauer teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 3, line(s) 44-59; column(s) 5, line(s) 50-60; column(s) 6, line(s) 29-62) for the purposes of determining the location of telephone line faults (col. 3, line(s) 25-29).

Smith teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (page(s) 1, § 0009, page(s) 2, § 0026, page(s) 3, § 0030-0032; page(s) 4, § 0052) for the purposes of testing copper pair lines that can aid in predicting, analyzing and locating defects in the lines so as to make repair and qualification of copper pair lines for xDSL service more efficient (page(s) 1, § 0008).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Liu, Bauer or Smith into the teachings of Butler in view of Lowell for the purposes mentioned above.

Consider claims 5, 43. Liu further teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 7, line(s) 6 to column(s) 11, line(s) 6) for the purposes of providing an apparatus for the qualification of subscriber loops which reduces the skill level required by operators performing the qualification (column(s) 2, line(s) 34-37).

Consider claims 8, 45. Liu further teaches sending signal over a DSL link (see the entire abstract).

4. Claims 9, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al (US 2004/0086086) in view of Lowell et al (6,362,630) as applied to claims 1, 37 and 44 above, and further in view of Dipperstein (6,185,191).

Consider claims 9, 48. Butler in view of Lowell does not teach sending the initiate test signal comprises sending the signal over an embedded operations channel.

Dipperstein teaches sending the initiate test signal comprises sending the signal over an embedded operations channel (EOC; column(s) 2, line(s) 59 through column(s) 3, line(s) 27) for the purpose of providing an enhancement of the ISDN communication and testing capability of the test set, that not is only capable of performing line prequalification and post installation testing, but does so in a manner that simplifies the interaction between the user/craftsperson and the test set, thereby minimizing line testing inaccuracies (which often depend upon the skill and familiarity of the technician with ISDN communications) and improving performance (column(s) 2, line(s) 50-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Dipperstein into the teachings of Butler in view of Lowell for the purposes mentioned above.

5. Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dipperstein (6,185,191) in view of Chong (6,177,801).

Consider claims 14-17. Dipperstein teaches a method to qualify a line pair comprising disconnecting a termination unit from the line pair, if installed (see fig(s) 6, termination unit 403); and connecting a test set (test set 410) adapted to perform copper qualifying line testing and equipped with an x digital subscriber line (xDSL) type modem to the line pairs and sending an initiate test signal from the test set to a remote termination unit (test set 406 or 412) to perform a series of line qualification tests. Dipperstein does not teach a test set adapted to perform copper qualifying line testing and equipped with an x digital subscriber line (xDSL) type

modem to the line pairs and sending an initiate test signal from the test set to a remote termination unit.

Chong teaches a test set (fig(s) 2B) adapted to perform copper qualifying line testing and equipped with an x digital subscriber line (xDSL) type modem to the line pairs and sending an initiate test signal from the test set to a remote termination unit (fig(s) 7, 9A, F) to perform a series of line qualification tests (bridge tap and other types of faults in a transmission line).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Chong into the teachings of Dipperstein for the purposes mentioned above.

Consider claim 18. Dipperstein further teaches removing battery from the line pair before performing the series of line pair qualifying tests (column(s) 9, line(s) 7-21).

Consider claim 19. Chong further teaches establishing an xDSL link in response to the line pair passing the series of line pair qualifying tests (column(s) 17, line(s) 50-64).

Consider claim 20. Chong further teaches using the remote terminating unit (HTU) as a far-end device to perform the series of qualification tests in coordination with the test set (see fig(s) 9A).

6. Claims 21-23, 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dipperstein (6,185,191) in view of Chong (6,177,801) as applied to claims 14, and 20 above, and further in view of Lowell et al (6,362,630).

Consider claim 21. Dipperstein in view of Chong does not teach that the remote termination unit is adapted to provide selected types of terminations connectable to the line pair to perform the qualifying tests.

Lowell teaches a system and method comprising automatically selecting types of terminations connectable to the line pair to perform the qualifying tests (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Lowell into the teachings of Dipperstein in view of Chong -for the purposes mentioned above.

Consider claim 22. Chong further teaches a test set (fig(s) 2B) adapted to perform copper qualifying line testing and equipped with an x digital subscriber line (xDSL) type modem to the line pairs and sending an initiate test signal from the test set to a remote termination unit (fig(s) 7, 9A, F) to perform a series of line qualification tests.

Consider claim 23. Dipperstein further teaches sending the initiate test signal comprises sending the signal over an embedded operations channel (EOC; column(s) 2, line(s) 59 through column(s) 3, line(s) 27).

Consider claim 25. Chong further teaches that the test set is coupled to a subscriber end of the line pair by an xDSL type modem to send the initiate test signal (fig(s) 9A, 9F).

Consider claim 26. Chong further teaches that sending the initiate test signal comprises sending the signal to the HTU via a non-xDSL communication link (i.e., conventional subscriber loop).

Consider claim 27. Lowell further teaches open circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing open circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claim 28. Lowell further teaches short circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing short circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claim 29. Lowell further teaches transmitting a selected signal on the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing signal loop tests while the selected signal is transmitted on the line pair by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claim 30. Chong further teaches that the HTU is a remote termination unit (HTU-R) at a subscriber end of the line pair and wherein the test set is coupled to the line pair at a central office (see fig(s) 9A, F).

7. Claims 31-33, 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630).

Consider claims 31-33, 56-58. Bothof teaches a system and method to qualify a line pair, comprising sending an initiate test signal (see fig(s). 2) to a termination unit (column(s) 7, line(s) 12-30); and performing a series of line pair qualifying tests (see the entire abstract; column(s) 1, line(s) 5-22; column(s) 2, line(s) 10-51; column(s) 2, line(s) 54 to column(s) 3, line(s) 27; column(s) 7, line(s) 12-36; column(s) 21, line(s) 20 to column(s) 27, line(s) 23), wherein the termination unit is adapted to provide selected types of terminations connectable to the line pair to perform the qualifying tests (column(s) 21, line(s) 20 to column(s) 27, line(s) 23). Bothof manually selects types of terminations connectable to the line pair to perform the qualifying tests.

Lowell teaches a system and method comprising automatically selecting types of terminations connectable to the line pair to perform the qualifying tests (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Lowell into the teachings of Bothof for the purposes mentioned above.

8. Claims 34-36, 59-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630) as applied to claim 56 above, and

further in view of and further in view of Liu et al (6,266,395), Bauer et al (6,026,145) or Smith et al (US 2002/0067802A1).

Consider claims 34-36, 59-61. Bothof in view of Lowell does not teach performing time domain reflectometry tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test.

Liu teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 7, line(s) 6 to column(s) 11, line(s) 6) for the purposes of providing an apparatus for the qualification of subscriber loops which reduces the skill level required by operators performing the qualification (column(s) 2, line(s) 34-37).

Bauer teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 3, line(s) 44-59; column(s) 5, line(s) 50-60; column(s) 6, line(s) 29-62) for the purposes of determining the location of telephone line faults (col. 3, line(s) 25-29).

Smith teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (page(s) 1, § 0009, page(s) 2, § 0026, page(s) 3, § 0030-0032; page(s) 4, § 0052) for the purposes of testing copper pair lines that can aid in predicting, analyzing and locating defects in the lines so as to make repair and qualification of copper pair lines for xDSL service more efficient (page(s) 1, § 0008).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Liu, Bauer or Smith into the teachings of Bothof in view of Lowell for the purposes mentioned above.

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9. Claims 46-47, 49-50, 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al (US 2004/0086086) in view of Lowell et al (6,362,630) as applied to claims 37, 44 above, and further in view of Chong (6,177,801).

Consider claim 46. Butler in view of Lowell does not teach that the HTU is a central office termination unit (HTU-C), and wherein the system further comprises a remote termination unit (HTU-R), wherein the test set is connectable to the HTU-R to send the initiate test signal to the HTU-C.

Chong teaches the HTU is a central office termination unit (HTU-C), and wherein the system further comprises a remote termination unit (HTU-R), wherein the test set is connectable to the HTU-R to send the initiate test signal to the HTU-C (see fig(s) 9A, F) for the purpose of performing a series of line qualification tests (bridge tap and other types of faults in a transmission line).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Chong into the teachings of Butler in view of Lowell for the purposes mentioned above.

Consider claim 47. Lowell teaches the use of well-known test equipment (column(s) 5, line(s) 5-20). Therefore, it would have been obvious to use the well-known, off-the-shelves VT100 terminal for testing the copper line pair.

Consider claims 49-50. Chong further teaches that sending the initiate test signal comprises sending the signal to the HTU via a non-xDSL communication link (i.e., conventional subscriber loop).

Consider claims 52-53. Chong further teaches a test set (fig(s) 2B) adapted to perform copper qualifying line testing and equipped with an x digital subscriber line (xDSL) type modem to the line pairs and sending an initiate test signal from the test set to a remote termination unit (fig(s) 7, 9A, F) to perform a series of line qualification tests.

Consider claims 54-55. Chong further teaches that the HTU is a remote termination unit (HTU-R) at a subscriber end of the line pair and wherein the test set is coupled to the line pair at a central office (see fig(s) 9A, F).

10. Claims 70-72, 78-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630) and Dipperstein (6,185,191).

Consider claims 70, 78. Bothof teaches a system and method to qualify a line pair, comprising sending an initiate test signal (see fig(s). 2) to a termination unit (column(s) 7, line(s) 12-30); and performing a series of line pair qualifying tests (see the entire abstract; column(s) 1, line(s) 5-22; column(s) 2, line(s) 10-51; column(s) 2, line(s) 54 to column(s) 3, line(s) 27; column(s) 7, line(s) 12-36; column(s) 21, line(s) 20 to column(s) 27, line(s) 23), wherein the termination unit is adapted to provide selected types of terminations connectable to the line pair to perform the qualifying tests (column(s) 21, line(s) 20 to column(s) 27, line(s) 23). Bothof manually selects types of terminations connectable to the line pair to perform the qualifying tests.

Lowell teaches a system and method comprising automatically selecting types of terminations connectable to the line pair to perform the qualifying tests (column(s) 1, line(s) 14-

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17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Lowell into the teachings of Bothof for the purposes mentioned above

Bothof in view of Lowell does not teach an XDSL type modem to signal a termination unit (HTU) over one of a digital subscriber line (XDSD link and an embedded operations channel (EOC) to selectively connect different types of terminations to the line pair to perform the line qualifying tests.

Dipperstein teaches sending the initiate test signal comprises sending the signal over an embedded operations channel (EOC; column(s) 2, line(s) 59 through column(s) 3, line(s) 27) for the purpose of providing an enhancement of the ISDN communication and testing capability of the test set, that not is only capable of performing line prequalification and post installation testing, but does so in a manner that simplifies the interaction between the user/craftsperson and the test set, thereby minimizing line testing inaccuracies (which often depend upon the skill and familiarity of the technician with ISDN communications) and improving performance (column(s) 2, line(s) 50-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Dipperstein into the teachings of Bothof in view of Lowell for the purposes mentioned above.

Consider claims 71, 79. Butler further teaches a memory to store results of the line qualification tests (page(s) 2, ¶ 0016).

Consider claims 72, 80. Lowell further teaches open and/or short circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing open and/or short circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Nguyen whose telephone number is 571-272-7503. The examiner can normally be reached on 7:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kuntz Curtis can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Duc Nguyen
Primary Examiner
Art Unit 2643